

Remarks

In the Office Action of January 11, 2006, the Examiner objected to claims 1, 5, 6, 8, and 10 for informalities. The Examiner also rejected claims 1-5 and 8-14 under 35 U.S.C. §112 as being incomplete for omitting essential elements. The Examiner rejected claims 1-4 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent 6,295,634 to Matsumoto (Matsumoto). The Examiner also indicated that claims 5, 6, 7, 15, and 16 are allowable if amended to overcome the 35 U.S.C. §112 rejections and objections.

In this Amendment and Response, Applicants have amended claims 1, 3, 5, 6, 8, and 10. Accordingly, claims 1-16 will be pending after entry of these Amendments.

I. Objection to Claims 1, 3, 5, 6, 8, and 10

Applicants have amended claims 1, 3, 5, 6, 8, and 10 to address the Examiner's objections. Therefore, Applicants respectfully request that the objection to claims 1, 3, 5, 6, 8, and 10 be withdrawn.

II. Rejection of Claims 1-5 and 8-14 under §112

In the Office Action, the Examiner rejected claims 1-5 and 8-14 under §112 as being incomplete for omitting essential elements. In particular, the Examiner indicated that claim 1 does not specify how the particular route is extracted or obtained from the identified set of route.

Applicants respectfully disagree with the Examiner's reading of claim 1. Applicants respectfully submit that "identifying a set of routes for a particular set of potential sub-regions" means "identifying one or more routes for a particular set of potential sub-regions." Consequently, the subsequent recitation of "each identified route" has its antecedent basis in the earlier recitation of "identifying one or more routes for a particular set of potential sub-regions."

As the phrase "each identified route" has proper antecedent basis, Applicants respectfully submit that claim 1 is sufficiently clear to satisfy the requirements of §112, second paragraph. As claims 2-5 depend directly or indirectly on claim 1, Applicants respectfully submit that claims 2-5 comply with §112, second paragraph, for at least the reasons described above for claim 1.

Claim 8 has been amended to depend on claim 6. Claims 9-14 depend directly or indirectly on amended claim 8.

In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the §112 rejection of claims 1-5 and 8-14.

III. Rejection of Claims 1-4 under §102(e)

In the Office Action, the Examiner rejected claims 1-4 under §102(e) as being anticipated by Matsumoto. Claims 2-4 are dependent directly or indirectly on independent claim 1. Claim 1 recites a method of pre-computing routes for nets for a router that uses a set of partitioning lines to partition a region of a design layout into several sub-regions. The method identifies a set of routes that traverse the particular set of potential sub-regions for each particular set of potential sub-regions. The method determines whether the identified route is stored in a storage structure; and when the identified route is not stored in the storage structure, stores the identified route in the storage structure for each identified route for each particular set of sub-regions.

For several reasons, Applicants respectfully submit that Matsumoto does not disclose, teach, or even suggest such a method. First, Matsumoto does not describe a method of pre-computing routes. Matsumoto discloses a detailed router that defines detailed routes. *See Figure 24*. Hence, Matsumoto is not concerned with pre-computing routes for later use by a router.

Second, as Matsumoto does not pre-compute routes, Matsumoto does not for each identified route (1) determine whether the identified route is stored in a storage structure; and (2) store the identified route in the storage structure when the identified route is not stored in the storage structure. Matsumoto's detailed router has no use for a checking operation (i.e., a determination operation) before a storage operation.

As claims 2-4 depend directly or indirectly on claim 1. Applicants respectfully submit that claims 2-4 are patentable over Matsumoto for at least at least the reasons discussed above for claim 1. In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the §102(e) rejection of claims 1-4.

IV. Allowable Subject Matter of claims 5, 6, 7, 15, and 16

Applicants appreciate the Examiner's recognition of allowable subject matter of claims 5, 6, 7, 15 and 16.

CONCLUSION

In view of the foregoing, it is submitted that all the claims, namely claims 1-16, are in condition for allowance. Reconsideration of the rejections and objections is requested. Allowance is earnestly solicited at the earliest possible date.

Respectfully submitted,

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